

We claim:

1. A targeting construct comprising:
 - (a) a first polynucleotide sequence homologous to a NPY6 receptor gene;
 - (b) a second polynucleotide sequence homologous to the NPY6 receptor gene;
 - 5 and
 - (c) a selectable marker.
2. The targeting construct of claim 1, wherein the targeting construct further comprises a screening marker.
3. A method of producing a targeting construct, the method comprising:
 - 10 (a) providing a first polynucleotide sequence homologous to a NPY6 receptor gene;
 - (b) providing a second polynucleotide sequence homologous to the NPY6 receptor gene;
 - (c) providing a selectable marker; and
 - 15 (d) inserting the first sequence, second sequence, and selectable marker into a vector, to produce the targeting construct.
4. A method of producing a targeting construct, the method comprising:
 - 20 (a) providing a polynucleotide comprising a first sequence homologous to a first region of a NPY6 receptor gene and a second sequence homologous to a second region of a NPY6 receptor gene; and
 - (b) inserting a positive selection marker between the first and second sequences to form the targeting construct.
5. A cell comprising a disruption in a NPY6 receptor gene.
6. The cell of claim 5, wherein the cell is a murine cell.
- 25 7. The cell of claim 6, wherein the murine cell is an embryonic stem cell.
8. A non-human transgenic animal comprising a disruption in a NPY6 receptor gene.
9. A cell derived from the non-human transgenic animal of claim 8.
10. A method of producing a transgenic mouse comprising a disruption in a NPY6 receptor gene, the method comprising:
 - 30 (a) introducing the targeting construct of claim 1 into a cell;
 - (b) introducing the cell into a blastocyst;

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- (c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein said pseudopregnant mouse gives birth to a chimeric mouse; and
- (d) breeding the chimeric mouse to produce the transgenic mouse.

11. A method of identifying an agent that modulates the expression of a NPY6 receptor,
5 the method comprising:

- (a) providing a non-human transgenic animal comprising a disruption in a NPY6 receptor gene;
- (b) administering an agent to the non-human transgenic animal; and
- (c) determining whether the expression of NPY6 receptor in the non-human
10 transgenic animal is modulated.

12. A method of identifying an agent that modulates the function of a NPY6 receptor, the
method comprising:

- (a) providing a non-human transgenic animal comprising a disruption in a NPY6 receptor gene;
- 15 (b) administering an agent to the non-human transgenic animal; and
- (c) determining whether the function of the disrupted NPY6 receptor gene in the non-human transgenic animal is modulated.

13. A method of identifying an agent that modulates the expression of NPY6 receptor, the
method comprising:

- 20 (a) providing a cell comprising a disruption in a NPY6 receptor gene;
- (b) contacting the cell with an agent; and
- (c) determining whether expression of the NPY6 receptor is modulated.

14. A method of identifying an agent that modulates the function of a NPY6 receptor
gene, the method comprising:

- 25 (a) providing a cell comprising a disruption in a NPY6 receptor gene;
- (b) contacting the cell with an agent; and
- (c) determining whether the function of the NPY6 receptor gene is modulated.

15. The method of claim 13 or claim 14, wherein the cell is derived from the non-human
transgenic animal of claim 8.

16. An agent identified by the method of claim 11, claim 12, claim 13, or claim 14.
17. A transgenic mouse comprising a homozygous disruption in a gene comprising SEQ ID NO:1, or a homolog thereof.
18. The transgenic mouse of claim 17, wherein the transgenic mouse exhibits increased agility or coordination relative to a wild-type control mouse.
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19. The transgenic mouse of claim 18, wherein the increased agility or coordination is characterized by increased latency in an accelerating rotarod test.
20. Phenotypic data associated with the transgenic mouse of claim 17, wherein the phenotypic data is in a database

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10 20 30 40 50 60 70 80 90 100
11 21 31 41 51 61 71 81 91 101
12 22 32 42 52 62 72 82 92 102
13 23 33 43 53 63 73 83 93 103
14 24 34 44 54 64 74 84 94 104
15 25 35 45 55 65 75 85 95 105
16 26 36 46 56 66 76 86 96 106
17 27 37 47 57 67 77 87 97 107
18 28 38 48 58 68 78 88 98 108
19 29 39 49 59 69 79 89 99 109
20 30 40 50 60 70 80 90 100 110